



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,932	01/15/2004	Jean Pierre Saladin	14XZ124318	6349

23413 7590 10/12/2005

CANTOR COLBURN, LLP
55 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

EXAMINER

SUCHECKI, KRYSZYNA

ART UNIT	PAPER NUMBER
----------	--------------

2882

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EX

Office Action Summary	Application No. 10/757,932	Applicant(s) SALADIN ET AL.	
	Examiner Krystyna Suchecki	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23,30,32-38,40 and 41 is/are rejected.
- 7) ☒ Claim(s) 24-29,31 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

The indicated allowability of claims 7-12, 16, 17, 21, 22, 35, 36 and 39 is withdrawn in view of the newly discovered reference(s) to Carpenter (US 4,176,916) and Schukalski (US 2002/0186817). Rejections based on the newly cited reference(s) follow.

Claim Objections

Claim 42 is objected to because of the following informalities: Claim 42 should read "to the direction of a filtration path." Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claim 1 fail(s) to correspond in scope with that which applicant(s) regard as the invention can be found in the reply filed 07/25/05. In that paper, applicant has stated that the invention is for filtering radiation, and this statement indicates that the invention is different from what is defined in the claim(s) because there is no radiation for the purpose of filtering in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2882

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Carpenter (US 4,176,916).

Regarding claims 1 and 42, Carpenter teaches a radiation filtering system comprising a plurality of filtering plates (2) of which a selected one or more of the plates can be conveyed and oriented in a position for use; means (1) for causing a selection of one or more of the plates and allowing for continuous conveyance thereof comprising means for rotating one or more filtering plates to allow the filtering plate to be oriented at a variety of oblique angles relative to the direction of a filtering path; the plates being fixed to the means for causing a selection by means of a joint (9); and means (4) for modifying an orientation of a plate about its respective joint.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-23, 30, 32-38, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schukalski (US 2002/0186817) in view of Carpenter (US 4,176,916).

Regarding Claims 2-4 and 13-17, Schukalski teaches an imaging apparatus, X-ray device, and X-ray tube (3) comprising means for providing a source of X-rays, including a chamber (shown generally at 5) provided with a cathode element and an

Art Unit: 2882

anode element that cooperate to provide X-rays, and window means (X-ray transmissive portion where X-rays exit the chamber) for permitting the X-rays to be directed out of the chamber; means for detecting the X-rays (7); a filter system (Figure 2) for the X-rays comprising: a plurality of filtering plates (29, 31, 33, 35) of which a selected one or more of the plates can be placed in a path of the X-rays (9); and distributor means (13, 15), facing the window, for causing a selection of one or more of the plates and allowing for continuous conveyance thereof (Paragraph 22, drive, belt, shaft and rotation elements). Schukalski teaches the cathode and anode elements since by definition X-ray tubes contain both elements [see class definition of 378/119].

Schukalski fails to teach the plates being fixed to the means for causing selection by means of a joint; and means for modifying an orientation of a plate about its respective joint including a ramp so that the filtration plate rotates about a joint as a result of motion of the distributor.

Carpenter teaches a filter distribution and selection means (1, 3) having plates (2) fixed to means for causing selection by means of a joint (9); and means (5, 4a, 4) for modifying an orientation of a plate about its respective joint. A ramp (5a) is also taught so that the filtration plate rotates about a joint as a result of motion of the distributor (Column 3, lines 43-68). Carpenter teaches the tiltable filters for permitting a change in the angle of incidence of a source of radiation in a manner that allows the accommodation of any number of filters on a wheel. The cam associated with the tilting means allows for compensation of nonlinearity of wavelength shifts in radiation transmitted by each filter. The variation in wavelength selection allows for a wideband

Art Unit: 2882

radiation source to be used in a system that is ultimately sensitive to materials of specific wavelength. In this manner, the percentage of certain materials can be determined (Column 1, lines 5-11 and Column 4, lines 29-45).

Therefor, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filter distribution and selection means of Carpenter in the imaging apparatus, X-ray device, and X-ray tube of Schukalski since the teachings of Carpenter would allow for a change in the angle of incidence of a source of radiation in a manner that allows the accommodation of any number of filters on a wheel. The nonlinearity of wavelength shifts in radiation transmitted by each filter could then be compensated while the variation in wavelength selection would allow a wideband radiation source to be used in a system that is ultimately sensitive to materials of specific wavelength. The percentage of certain materials could then be determined (Column 1, lines 5-11 and Column 4, lines 29-45).

Regarding Claim 5, Carpenter teaches a joint (9) comprising a rotation shaft and bearings respectively mounted on an edge of a filtration plate and on an arm of the distributor (Figure 2).

Regarding Claim 6, Carpenter teaches a joint (6) comprising a flexible strip (tension devices are, by definition, flexible) for connection between an edge of the filtration plate and an end of an arm of a distributor (Column 3, lines 53-63).

Regarding Claims 7-12, Schukalski in view of Carpenter teaches a distributor comprising a roundabout formed by a conveyor circulating continuously on the rim of

two wheels, the rotational axes of the wheels being parallel to each other and to a direction of the X-rays emitted by the tube, the distributor comprising a distributor wheel (as taught above from Carpenter), an axis of rotation (17) of which is parallel to a direction of the X-rays (9) emitted by the tube (Paragraph 22).

Regarding claims 18-23, Carpenter teaches a mechanism comprising a pusher device (4) to cause the filtration plate to rotate about its joint.

Regarding Claim 30, Carpenter teaches a pusher device as motor driven and wherein the filtering system receives a command to cause the filtration plate to occupy intermediate positions with respect to the window between two extreme positions. Carpenter teaches this since a motor drives the entire assembly, and the pusher device is actuated by way of the driving motion so that the pusher can push the plate along a variety of angles, including intermediate positions, between extremes set by the curvature of a ramp (Column 3, lines 53-63 and Column 4, lines 11-28).

Regarding Claims 32-38 and 40, Schukalski in view of Carpenter teaches a filtration plate mounted in a filtration system by means of a frame (Schukalski, 21) with guide-ways (Schukalski, 37, 39).

Regarding Claim 41, Carpenter teaches a mechanism comprising means for rotating a filtration plate about its joint thereby allowing the filtration plate to be oriented at a variety of oblique angles relative to the direction of the emitted X-rays (Column 3, lines 53-63 and Column 4, lines 11-28).

Allowable Subject Matter

Claims 24-29, 31 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: claims 24-29 contains allowable subject matter for at least the reason that the prior art of record fails to teach or reasonably suggest an imaging apparatus, X-ray device or X-ray tube comprising a plurality of filtering plates held by a distributor and conveyed wherein the plates are fixed to the distributor by means of a joint and arm with a pusher device to modify an orientation of a filtration plate about its respective joint and a spring to push the filtration plate back towards the pusher device as claimed. While both Carpenter and "Discrete Interference Filter Monochromator" both teach a tensioning device active upon a pushing arm, the tensioning devices exert a pulling force, so as to pull the arms back towards a distribution means. Neither reference teaches or suggests a converse pushing motion. Claims 31 and 39 contain allowable subject matter at least by virtue of dependency.

Conclusion

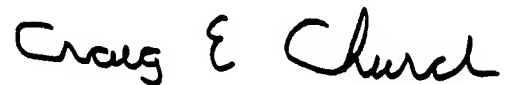
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krystyna Suchecki whose telephone number is (571) 272-2495. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ks



Craig E. Church
Primary Examiner